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GARLICK, HARRISON & MARKISON, LLP
P.O. BOX 160727
AUSTIN, TX 78716

EXAMINER

VAN HANDEL, MICHAEL P

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2623

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/865,136

Applicant(s)

LAKSONO, INDRA

Examiner

Michael Van Handel

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This action is responsive to an Amendment filed 11/28/2007. Claims **1-63** are pending.

Response to Arguments

1. Applicant's arguments regarding claims **1, 16, 28, 37, and 52**, filed 11/28/2007, have been fully considered, but they are not persuasive.

Regarding claims **1, 16, 28, 37, and 52**, the applicant argues that Rakib et al. does not disclose channel mixing in a multimedia system. The examiner respectfully disagrees. The examiner first notes that the recitations "a method for channel mixing," "a channel mixer for use in a multimedia system," and "an apparatus for channel mixing," have not been given patentable weight, because the recitations occur in the preambles of the claims. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

The examiner notes that a mixer is a device used to simultaneously combine and blend several inputs into one or two outputs (see definitions of "mixer" from IBM Corporation, 1998 and The Authoritative Dictionary of IEEE Standards Terms, Seventh Edition). Rakib et al. discloses a home network having a gateway, which converts incoming signals from external

networks to digital data in Ethernet packets for transmission to requesting devices on the home network (p. 4, paragraph 37 & Fig. 3). The gateway has one or more protocol conversion processes and a switching control process that controls a packet switch to route packets between one or more subscription service networks and the local area network to which the gateway is coupled (p. 5, paragraph 43 & p. 10, paragraph 88). Rakib et al. discloses that the gateway 14 delivers requested services to all the peripherals in the customer premises seamlessly over a shared LAN, thereby eliminating the need for separate home networks (p. 12, paragraph 120 & Fig. 4). The gateway functions to tune signals from multiple external sources (Figs. 3, 4A, 4B, 8). Tuner 100 is tuned to one of the conventional analog video channels in NTSC, PAL, or SECAM format in response to a user request over the LAN (p. 12, paragraphs 119, 122 & p. 21, paragraphs 218-219). The signals are demodulated, converted to YUV format luminance and chrominance signals, compressed into MPEG II, encapsulated into PCI bus packets addressed to IP video circuit 158, and then encapsulated into IP packets addressed to the network adapter of the TV on the LAN where the video channel is to be viewed (p. 12, 13, paragraphs 123-125 & p. 21, paragraphs 219-223). The IP packets reach the network adapter of the TV that requested the channel and are converted to a video signal that can be displayed by the TV (p. 13, paragraph 127). TV Antenna 328 works similarly to tuner 100, but is used for tuning to a particular terrestrial TV channel (p. 21, paragraphs 225-228). Tuner 102 is used to tune particular VOD channels for distribution as IP packets on the LAN (p. 13, paragraphs 130-138; p. 14, paragraphs 138-140; & Figs. 4A, 4B). Tuner 180 is used to tune particular satellite television channels for distribution as IP packets on the LAN (p. 17, 18, paragraphs 179-185). Additionally, IP telephony can be received and distributed as IP packets on the LAN (Figs. 3, 8). The examiner

notes that IP and Ethernet are packet-switching protocols, thus using statistical multiplexing to mix the channels from the various external sources onto a single LAN. As such, the examiner maintains that Rakib et al. meets the limitations of “a method for channel mixing,” “a channel mixer for use in a multimedia system,” and “an apparatus for channel mixing,” as currently claimed.

Further regarding claims **1, 16, 28, 37, and 52**, the applicant argues that Rakib et al. does not disclose receiving a set of channels as encoded channel data, interpreting the encoded channel data to identify a channel of interest of the set of channels based on a specific channel selection request, processing data of the channel of interest based on type of channel to produce generic data, and converting the generic data into a stream of data. The examiner respectfully disagrees. Rakib et al. discloses that tuner 100 receives control data from microprocessor 128 defining which CATV analog video channel has been requested by a user. In response, the tuner 100 tunes to the desired channel (p. 12, paragraph 122). Tuner 102 tunes to a particular VOD channel in response to a user request (p. 13, paragraph 131). Tuner 180 tunes to a particular satellite television channel in response to a user request (p. 17, 18, paragraph 179). Tuner 332 tunes to a standard television broadcast channel in response to a user request (p. 21, paragraph 225). These all meet the limitations of receiving a set of channels as encoded channel data and interpreting the encoded channel data to identify a channel of interest of the set of channels based on a specific channel selection request, as currently claimed. Rakib et al. further discloses that analog CATV channels are converted into YUV format luminance and chrominance signals (p. 12, 13, paragraph 124 & Fig. 4A). VOD channels are demodulated with a QAM demodulator and separated into video, audio, and data streams by a transport demultiplexer (p. 13, paragraphs

135, 136 & Fig. 4A). Satellite channels are demodulated with a QPSK demodulator and separated into video, audio, and data points by a transport demultiplexer (p. 18, paragraph 180 & Fig. 4A). Standard terrestrial TV broadcast channels are converted into YUV format luminance and chrominance signals (p. 21, paragraph 227). These all meet the limitations of processing data of the channel of interest based on type of channel to produce generic data, as currently claimed. Rakib et al. still further discloses that IP packets encapsulating the CATV channel are transmitted to the appropriate LAN interface card on the LAN (p. 13, paragraph 125). IP packets encapsulating the VOD channel are also transmitted to the appropriate LAN interface card on the LAN (p. 14, paragraphs 139, 140). IP packets encapsulating the satellite channel are also transmitted to the appropriate LAN interface card on the LAN (p. 18, paragraphs 184, 185). IP packets encapsulating the standard terrestrial broadcast channel are also transmitted to the appropriate LAN interface card on the LAN (p. 21, paragraphs 227, 228). These all meet the limitations of converting the generic data into a stream of data, as currently claimed. As such, the examiner maintains that Rakib et al. teaches receiving a set of channels as encoded channel data, interpreting the encoded channel data to identify a channel of interest of the set of channels based on a specific channel selection request, processing data of the channel of interest based on type of channel to produce generic data, and converting the generic data into a stream of data, as currently claimed.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims **1-63** are rejected under 35 U.S.C. 102(e) as being anticipated by Rakib et al.

Referring to claim **1**, Rakib et al. discloses a method for channel mixing in a multimedia system, the method comprises:

- receiving a set of channels as encoded channel data and interpreting the encoded channel data to identify a channel of interest of the set of channels based on a specific channel selection request (p. 12, paragraphs 119, 122; p. 13, paragraphs 125, 126, 131; p. 17, paragraph 179; p. 20, paragraph 211; p. 21, paragraphs 221, 227; & p. 22, paragraph 233; & Fig. 4A);
- processing data of the channel of interest based on type of channel to produce generic data (p. 12, 13, paragraphs 123, 124; p. 21, paragraphs 218-220, 225-227; p. 22, paragraph 237; & p. 26, paragraphs 272, 274); and
- converting the generic data into a stream of data (p. 13, paragraphs 125, 126 & p. 21, paragraphs 221, 228).

Referring to claims **2-4, 17, 18, 38-40, 53, and 54**, Rakib et al. discloses the method/apparatus of claims **1, 16, 37, and 52**, further comprises:

- receiving the set of channels by receiving packets of the encoded channel data, wherein the encoded channel data includes channel data from a plurality of tuners associated with a multimedia source, and wherein each of the packets includes a

header portion and payload portion and interpreting the encoded channel data by interpreting information of the header portion of the packets to identify individual channels of the set of channels (the routing process 86 examines the destination addresses in the IP packet headers and encapsulates the channel IP packet data into Ethernet packets for routing to the appropriate LAN network interface card)(p. 13, paragraphs 125-127, 130, 131, 133; & p. 14, paragraphs 138-140; p. 17, paragraphs 167, 168; p. 18, paragraph 184; & p. 21, paragraphs 221, 223).

NOTE: The USPTO considers the applicant's "at least one of" language to be anticipated by any reference containing any of the subsequent corresponding elements.

Referring to claims **5** and **41**, Rakib et al. discloses the method/apparatus of claims 2 and 38 respectively, wherein the interpreting the encoded channel data further comprises:

- identifying, based on the information of the header portion, one of the individual channels of the set of channels that contains a group of compressed video channels, wherein the channel of interest is within the group of compressed video channels (p. 13, paragraphs 130, 136; p. 14, paragraph 143; p. 16, paragraphs 159, 164-165; & p. 17, paragraph 165, 166); and
- isolating the channel of interest from the group of compressed video channels (subchannels associated with a VOD program are sent to various other peripherals)(p. 17, paragraph 167).

Referring to claims **6**, **19**, **42**, and **55**, Rakib et al. discloses the method/apparatus of claims 1, 16, 37, and 52, respectively, further comprises:

- receiving the set of channels by receiving packets of the encoded channel data, wherein the encoded channel data includes channel data from a plurality of sources, and wherein each of the packets includes a header portion and a payload portion (p. 12, paragraphs 119, 122; p. 13, paragraphs 125, 126, 131; p. 17, paragraph 179; p. 20, paragraph 211; p. 21, paragraphs 221, 227; & p. 22, paragraph 233; & Fig. 4A);
- interpreting the encoding channel data by interpreting information of the header portion of the packets to identify the type of data of each channel provided by each of the plurality of sources (p. 13, paragraph 125 & p. 17, paragraphs 166, 167); and
- determining filtering requirements to identify the channel of interest based on the type of data (p. 13, paragraphs 125, 126).

Referring to claims 7, 20, 43, and 56, Rakib et al. discloses the method/apparatus of claims 6, 19, 42, and 55, respectively, wherein the determining the filtering requirements further comprises at least one of:

- when the type of data is multi-channel compressed video, filtering the multi-channel compressed video to produce the channel of interest (p. 17, paragraph 167);
- when the type of data is single channel compressed video, passing the single channel compressed video as the channel of interest (p. 13, paragraphs 125, 126);
- when the type of data is multi-channel digitized video data, filtering the multi-channel digitized video data to produce the channel of interest (p. 17, paragraph 167);
- when the type of data is single channel digitized video data, passing the single channel digitized video as the channel of interest (p. 13, paragraph 132);

- when the type of data is multi-channel digital audio, filtering the multi-channel digital audio to produce the channel of interest;
- when the type of data is single channel digital audio, passing the single channel digital audio as the channel of interest (p. 13, paragraph 132); and
- when the type of data is network carried data, passing the network carried data as the channel of interest (p. 19, paragraph 200).

NOTE: The USPTO considers the applicant's "at least one of" language to be anticipated by any reference containing any of the subsequent corresponding elements.

Referring to claims **8, 21, 44, and 57**, Rakib et al. discloses the method/apparatus of claims 1, 16, 37, and 52, respectively, further comprises:

- interpreting the encoded channel data to identify a series of channels of interest from the set of channels based on a corresponding series of channel selection requests (p. 12, paragraph 120);
- processing data of each of the series of channel of interest based on the type of channel of each of the channels of the series of channels of interest to produce a series of generic data (based on selections made by users at multiple peripherals, a variety of channel data from the various tuners is processed and compressed according to channel type and output as first a stream of PCI data, then a stream of IP data, and finally a stream of Ethernet data)(Fig. 4A); and
- converting the series of generic data into the stream of data (Fig. 4A).

Referring to claims **9, 22, 45, and 58**, Rakib et al. discloses the method/apparatus of claims 1, 16, 37, and 52, respectively, wherein the processing the data of the channel of interest further comprises at least one of:

- when the type of data is multi-channel compressed video, converting the data of the channel of interest into generic video data (p. 13, paragraph 130);
- when the type of data is single channel compressed video, converting the video data of the channel of interest into the generic video data (p. 13, paragraph 131);
- when the type of data is multi-channel digitized video data, converting the video data of the channel of interest into the generic video data (p. 13, paragraph 130);
- when the type of data is single channel digitized video data, converting the video data of the channel of interest into the generic video data (p. 13, paragraph 131);
- when the type of data is multi channel digital audio, converting the audio data of the channel of interest into generic audio data;
- when the type of data is single channel digital audio, converting the audio data of the channel of interest into the generic audio data (p. 13, paragraph 132); and
- when the type of data is network carried data, passing the network carried data as the channel of interest (p. 19, paragraph 200).

NOTE: The USPTO considers the applicant's "at least one of" language to be anticipated by any reference containing any of the subsequent corresponding elements.

Referring to claims **10, 23, 46, and 59**, Rakib et al. discloses the method/apparatus of claims 9, 22, 45, and 58, respectively, wherein the converting to the generic video data further comprises at least one of:

- converting the video data of the channel of interest into MPEG formatted video data (p. 6, paragraph 51 & p. 12, paragraphs 123, 124);
- converting the video data of the channel of interest into JPEG formatted video data (p. 6, paragraph 51);
- converting the video data of the channel of interest into M-JPEG formatted video data;
- converting the video data of the channel of interest into digital RGB video data; and
- converting the video data of the channel of interest into digital YCbCr video data.

NOTE: The USPTO considers the applicant's "at least one of" language to be anticipated by any reference containing any of the subsequent corresponding elements.

Referring to claims **11, 24, 47, and 60**, Rakib et al. discloses the method/apparatus of claims 9, 22, 45, and 58, respectively, wherein the converting to the generic audio data further comprises at least one of:

- converting the audio data of the channel of interest into MPG formatted audio data (p. 18, paragraphs 191, 192);
- converting the audio data of the channel of interest into MP3 formatted audio data; and
- converting the audio data of the channel of interest into PCM digitized audio data.

NOTE: The USPTO considers the applicant's "at least one of" language to be anticipated by any reference containing any of the subsequent corresponding elements.

Referring to claims **12** and **48**, Rakib et al. discloses the method/apparatus of claims 1 and 37, respectively, wherein the converting the generic data into a stream of data further comprises:

- determining type of data of the channel of interest (p. 12, paragraph 122); and
- converting the generic data into the stream of data based on the type of data (p. 12, 13, paragraphs 124-127).

Referring to claims **13**, **25**, **49**, and **61**, Rakib et al. discloses the method/apparatus of claims 12, 16, 48, and 52, respectively, wherein the converting the generic data further comprises at least one of:

- when the type of data is multi-channel compressed video, converting the generic video data of the channel of interest into specific video data (p. 6, paragraph 51 & p. 13, paragraph 130);
- when the type of data is single channel compressed video, converting the generic video data of the channel of interest into a specific video data (p. 6, paragraph 51 & p. 13, paragraph 131);
- when the type of data is multi-channel digitized video data, converting the generic video data of the channel of interest into the specific video data (p. 6, paragraph 51 & p. 13, paragraph 130);
- when the type of data is single channel digitized video data, converting the generic video data of the channel of interest into the specific video data (p. 6, paragraph 51 & p. 13, paragraph 131);

- when the type of data is multi-channel digital audio, converting the generic audio data of the channel of interest into specific audio data;
- when the type of data is single channel digital audio, converting the generic audio data of the channel of interest into specific audio data (p. 13, paragraph 132 & p. 18, paragraphs 191, 192); and
- when the type of data is network carried data, passing the network carried data of the channel of interest (p. 19, paragraph 200).

NOTE: The USPTO considers the applicant's "at least one of" language to be anticipated by any reference containing any of the subsequent corresponding elements.

Referring to claims **14, 26, 50, and 62**, Rakib et al. discloses the method/apparatus of claims 13, 25, 49, and 61, respectively, wherein the converting the generic video data of the channel of interest into specific video data further comprises performing a motion prediction on the generic video data to produce motion prediction data; performing a discrete cosine transform on the motion prediction data to produce DCT data; quantizing the DCT data to produce quantized data; zigzag processing the quantized data to produce ZZ data; and Huffman encoding the ZZ data to produce the specific video data (p. 6, paragraph 51).

Referring to claims **15, 27, 51, and 63**, Rakib et al. discloses the method/apparatus of claims 1, 16, 37, and 52, respectively, further comprises:

- determining the channel of interest is compressed among multiple compressed video channels (p. 13, paragraph 130);
- receiving a control signal indicating the type of processing of the data of the channel of interest (p. 13, paragraph 131); and

- when the control signal indicates multiple channel processing (p. 13, paragraph 131):
 - o decompressing the multiple compressed video channels to produce multiple channels (p. 16, paragraph 159);
 - o processing data of the multiple channels based on the type of channel to produce multiple generic data and converting the multiple generic data into the stream of data (p. 16, 17, paragraphs 164-167).

Referring to claim **16**, Rakib et al. discloses a method for channel mixing in a multimedia system, the method comprises:

- receiving a set of channels as encoded channel data, interpreting the encoded channel data to identify type of data of a channel of interest contained within the set of channels based on a specific channel selection request, and separating the channel of interest from the set of channels based on the type of data (p. 12, paragraphs 119, 122; p. 13, paragraphs 125, 126, 131; p. 17, paragraph 179; p. 20, paragraph 211; p. 21, paragraphs 221, 227; & p. 22, paragraph 233; & Fig. 4A);
- processing data of the channel of interest based on the type of data to produce generic data (p. 12, 13, paragraphs 123, 124; p. 21, paragraphs 218-220, 225-227; p. 22, paragraph 237; & p. 26, paragraphs 272, 274); and
- converting the generic data into a stream of data (p. 13, paragraphs 125, 126 & p. 21, paragraphs 221, 228).

Referring to claim **28**, Rakib et al. discloses a channel mixer for use in a multimedia system, the channel mixer comprises:

- stream parsing module (Fig. 8) operably coupled to receive a set of channels as encoded channel data, wherein the stream parsing module generates generic data for at least one channel of the set of channels, wherein the at least one of the channels is determined based on a specific channel selection request and data transcoding module operably coupled to convert the generic data of the at least one channel into a stream of data having a specific data format (multiple tuners receive multiple channels from a variety of sources according to user selections. The video data is compressed according to a compression format, such as MPEG, and the data is then routed to the requesting user as a set of packets)(p. 12-13, paragraphs 119, 120, 123-127, 130, 131; p. 16-19, 21-23, paragraphs 159, 164-168; 170-179, 182-185, 196, 224, 232, 240, 242; & Fig. 4A).

Referring to claim **29**, Rakib et al. discloses the channel mixer of claim 20, further comprises:

- memory 129 131 135 (Fig. 4A); and
- memory controller 128 133 operably coupled to the memory, the stream parsing module and the data transcoding module, wherein the memory controller controls reading and writing of data to the memory by the stream parsing module and the data transcoding module (Fig. 4A).

Referring to claim **30**, Rakib et al. discloses the channel mixer of claim 28, wherein the stream parsing module further comprises:

- plurality of bit stream modules 378 380 372 386 388 390 392 394 396 398 400, wherein each of the plurality of bit stream modules filters the encoded channel data to

- produce a separate channel of interest based on a corresponding channel selection request of a plurality of channel selection requests (Fig. 8); and
- processor 128 operably coupled to the plurality of bit stream modules, wherein the processor generates generic data for each of the separate channels of interest based on type of data for each of the separate channels of interest (p. 24, paragraph 250 & Fig. 8).

Referring to claim 31, Rakib et al. discloses the channel mixer of claim 30, wherein each of the plurality of bit stream modules further comprises an interpreter (IP Video Process 158) operably coupled to receive a plurality of packets containing the encoded channel data, wherein the interpreter interprets the packets to identify type of data for the channel of interest (p. 13, paragraph 125 & p. 17, paragraphs 166, 167), and wherein the filtering performed by each of the plurality of bit stream modules is dependent on the type of data (p. 13, paragraphs 125, 126).

Referring to claim 32, Rakib et al. discloses the channel mixer of claim 30 further comprises an input bit bucket operably coupled to the processor and the memory controller, wherein the input bit bucket provides byte to bit conversion of data stored in the memory (p. 24, paragraph 249).

Referring to claim 33, Rakib et al. discloses the channel mixer of claim 30 further comprises a decoder instruction packet module operably coupled to the memory controller and the transcoding module, wherein the decoder instruction packet module coordinates the pipelining of data through the transcoding module (p. 13, paragraphs 125, 126).

Referring to claim 34, Rakib et al. discloses the channel mixer of claim 33, wherein the transcoding module further comprises:

- MPEG decoding module 352 operably coupled to the memory controller and to the decoder instruction packet module, wherein the MPEG decoding module decodes MPEG encoded video data (p. 22, paragraph 237); and
- MPEG encoding module 147 operably coupled to the memory controller and to the decoder instruction packet module, wherein the MPEG encoding module encodes generic video data into MPEG video data (Fig. 4A).

Referring to claim **35**, Rakib et al. discloses the channel mixer of claim 30 further comprises a system bus interface (host bus 156)(Fig. 4A & Fig. 8) operably coupled to the processor, wherein the system bus interface provides interfacing to at least one of: system processor and system memory.

NOTE: The USPTO considers the applicant's "at least one of" language to be anticipated by any reference containing any of the subsequent corresponding elements.

Referring to claim **36**, Rakib et al. discloses the channel mixer of claim 30 further comprises a digital to analog converter for the stream of data into analog signals (p. 5, paragraph 39).

Referring to claims **37** and **52**, Rakib et al. discloses an apparatus for channel mixing in a multimedia system, the apparatus comprises a processing module and memory operably coupled to the processing module, wherein the memory includes operational instructions that cause the processing module to:

- o receive a set of channels as encoded channel data (p. 12, paragraphs 119, 122; p. 13, paragraphs 125, 126, 131; p. 17, paragraph 179; p. 20, paragraph 211; p. 21, paragraphs 221, 227; & p. 22, paragraph 233; & Fig. 4A);

- interpret the encoded channel data to identify a channel of interest of the set of channels based on a specific channel selection request (p. 13, paragraphs 130, 136; p. 14, paragraph 143; p. 16, paragraphs 159, 164-165; & p. 17, paragraph 165, 166);
- process data of the channel of interest based on type of channel to produce generic data (p. 12, 13, paragraphs 123, 124; p. 21, paragraphs 218-220, 225-227; p. 22, paragraph 237; & p. 26, paragraphs 272, 274); and
- convert the generic data into a stream of data (p. 13, paragraphs 125, 126 & p. 21, paragraphs 221, 228).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Van Handel whose telephone number is 571-272-5968. The examiner can normally be reached on 8:00am-5:30pm Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MVH


CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600